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LEVEL DOMAIN OF PSYCHOLOGICAL SKILLS IN YOUNG WOMAN ELITE HANDBALL PLAYERS

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Summary

The study aimed to know psychological skills of young elite female handball players and to analyze possible differences in these variables considering their level of competitive experience, depending on the scores obtained in CHPCDC- Children and Youth Scale. The more experienced players showed lower scores on several psychological skills and also a lower total score. Therefore should be included in sports training, psychological skills training.

Keywords

Young female handball players, psychological assessment, psychological skills, psychological training

Introduction

The sport can be very important for the development of children because it promotes their overall development (bio-psycho-social), in addition to their athletic development. For these reasons, it is accepted that, if the sport has an appropriate structure, organization, characteristics and adult leadership, is highly suited to achieve these objectives (Godoy-Izquierdo, Vélez, & Pradas, 2007).

Moreover, athletic performance in any sport is a combination of ability and motor skill, technical, tactical, strategic and psychological aspects. For this, it is necessary long periods of preparation of the athletes in sport-specific skills. However, as the high level athletes distinguished relatively little in physical, technical or tactical, their different performances could be explained by the domain and control of psychological skills. The psychological preparation of athletes includes mental skills training to help or enhance their performance (Godoy-Izquierdo et al., 2007, p. 47). For Chen and Singer (1992), athletes need to learn a set of tools to manage their psychological resources independently and adapted to the demands of their sport in every moment and situation, both in training and in competition.

The individual identification of deficits and resources of each athlete, the degree of domain of the psychological skills and their specific needs, will help establish goals and design of psychological training plan. This will aim to develop mental skills that are considered important for each player, sport, etc. For this it is necessary to have appropriate instruments to obtain this information in young athletes. That is the case of *CHPCDC Scale* (Escala Infantil-Juvenil de Habilidades Psicológicas y Comportamientos en el Deporte de Competición, or Psychological Skills and Behavior in Sport Competition -Children-Youth Scale), by Godoy-Izquierdo, Vélez, Ramírez, and Andréu (2006a), or the *C.P.R.D. Questionnaire* (*Características Psicológicas relacionadas con el Rendimiento Deportivo*, or Psychological Characteristics related of Sport Performance), by Gimeno, Buceta, and Pérez-Llantada (2001) in Spanish language.

In English language there are many more instruments designed specifically to assess the level of mastery of psychological skills, as the Ottawa Mental Skills Assessment Tool-3-OMSAT-3

(Durand-Bush, Salmela, & Green-Demers, 2001), the Athletic Coping Skills Inventory-28-ACSI-28 (Smith, Schutz, Smoll, & Ptacek, 1995), Spanish version by Graupera Sanz, Ruiz Pérez, García Coll, and Smith (2011), Psychological Skills Inventory for Sports-PSIS (Mahoney, Gabriel, & Scott Perkins, 1987), currently PSIS-R5 (5th revision), among others. The aim of this study was to know the psychological skills of young female handball players and compare the level of control over these skills considering their sporting experience (years competing), using an instrument designed specifically for psychological assessment of children and young people in Spanish population.

Methods

Participants

The study involved 139 young female handball players from 13 to 16 years old ($M = 14,25$; $SD = 0,74$), with a mean of 8,66 years playing ($SD = 2,16$), and a mean of 5,10 years competing ($SD = 2,18$). Of these, a total of 39 players completed a second measurement. In the first measurement they had a mean of 5,07 years of competitive experience ($SD = 2,24$), while in the second measurement they had a mean of 6,20 years competing ($SD = 2,15$). All players competed in the highest league of their sports category, were selected as the best players of their sport category, belonged to the National Sporting Talent Programme of the Royal Spanish Handball Federation, and commonly performed at least 3 training sessions per week plus one official match.

Assessment instrument

As data collection instrument we used the Spanish Questionnaire CHPCDC (in English, Psychological Skills Questionnaire and Behavior in Sport Competition - Children-Youth Scale), by Godoy-Izquierdo et al. (2006a) for the assessment of 21 variables and psychological skills in young athletes.

The CHPCDC consists of 45 items distributed in 21 subscales that assess both psychological behaviors such as self-regulation skills relevant in sport. The instrument collects information about the degree of experimentation and the level of mastery of different variables and psychological skills. The answers to each question are graduated in 5 options, each one of them includes a description of the different possibilities, and the athlete must mark the option that best suits her particular case. The answers are evaluated from -2 to +2, where 0 indicates a clear lack of knowledge or control over the ability, negative attitudes, or behaviors in the opposite line the ability. Positive values indicate a greater knowledge, positive attitudes, or level of mastery over the skill. Subscale scores are obtained by adding the scores of its items, and total score is obtained by adding the points of each subscale. The last question of the questionnaire is not included in total score because it is an open question where the athletes listed in order of priority the psychological skills they would like to improve and work on a future psychological training. The 21 subscales are: basic Motivation, activation (energy), competitive anxiety, influence of the result (successes and failures coping), negative thinking, positive thinking, controllability for successes, controllability for failures, visualization, concentration, reflexivity-impulsivity, self-assessment of performance (differences training-competition), daily motivation, competitive motivation, self-confidence, peer relationships, cooperation and cohesion in the team, relationship coach, parent performances, fair play and ethical behavior, self-awareness, and expectations.

Results have immediate implications related to psychological training and integral sports training for athletes, and in the identification and training of talented athletes, making possible to obtain a profile of these young athletes. However, it is always necessary to complement the information obtained with other information obtained from other assessment strategies, as

interview and athlete's observation, or interviews to their coaches, etc., and also applies in order to test the effectiveness of the intervention in medium-long term. Remark that there is also a version of this questionnaire in interview format (Godoy-Izquierdo, Vélez, Ramírez, & Andréu, 2006b).

Procedure

All players and their parents were informed about the procedures of the measurements and provided their written consent for participating according to the research policy of the Royal Spanish Handball Federation. All of them completed the questionnaire individually, accompanied by a personal data sheet.

Data analysis

According to the Kolmogorov-Smirnov test, data were not normally distributed for all measures in this study and therefore, nonparametric statistics were used. To appreciate the differences between the first and second measurement we used the Wilcoxon test for related samples. We used levels of significance of $p \leq 0,05$ and $p \leq 0,01$ in the statistical analysis. All analyses were done with SPSS version 17.0.

Results

Table 1 shows the descriptive results (mean, standard deviation, minimum, maximum, and maximum obtainable score) obtained by the sample in each of the subscales and in the full CHPCDC as well as transformed mean score on the basis of 10 points, to help the reader better analyze and compare the results between the different subscales. It can be observed that the total score is relatively low (42,68) compared to the maximum total score (90) that can be obtained in the questionnaire. As for the mean scores on the subscales, some values are close to the maximum that can be obtained in those subscales, while other cases are far apart.

Table 1. Mean, standard deviation (SD), minimum, maximum, and maximum obtainable score, obtained by all the players (N= 139) in each of the 21 subscales, as well as score of each subscale transformed on the basis of 10 points.						
	Subscales and Total score	Mean (SD)	Min.	Max.	Max. obtainable score	Mean Score on the basis of 10 points
a	Performances of parents (PPARENTS)	3,37 (1,01)	-2	4	4	8,42
b	Expectations (EXP)	1,60 (0,90)	-2	2	2	8
c	Relationship with coach (RCOACH)	3,04 (1,13)	-1	4	4	7,6
d	Daily motivation (DMOT)	1,37 (0,65)	-2	2	2	6,85
e	Activation (energy) (ACT)	6,80 (3,28)	-5	10	10	6,8
f	Fairplay and ethical behavior (FAI)	1,34 (0,66)	-2	2	2	6,7
g	Self-awareness (S-AWAR)	1,27 (1,12)	-2	2	2	6,35
h	Self performance evaluation (differences training-competition) (S-P-EVAL)	1,20 (0,94)	-2	2	2	6
i	Competitive motivation (CMOT)	2,24 (1,17)	-2	4	4	5,6
j	Relations with partners, cohesion-cooperation in the team (COH)	1,09 (1,00)	-2	2	2	5,45
k	Negative thinking (NTHINK)	2,14 (1,19)	-2	4	4	5,35
l	Concentration (CONC)	4,20 (1,89)	-2	8	8	5,25
m	Positive thinking (PTHINK)	4,01 (3,39)	-8	8	8	5,01
n	Basic motivation (BMOT)	0,84 (0,51)	-1	1	2	4,2
ñ	Reflexivity-impulsivity (REIM)	1,63 (1,51)	-4	4	4	4,07
o	Controllability for failure (CFAIL)	0,75 (0,48)	-0,4	1,6	2	3,75
p	Controllability for success (CSUCC)	0,68 (0,42)	0	2	2	3,4
q	Visualization (VIS)	1,29 (2,28)	-4	4	4	3,22
r	Competitive anxiety (CANX)	3,53 (3,98)	-11	12	16	2,2
s	Self-confidence (S-CONF)	0,25 (1,37)	-3	4	4	0,62
t	Influence of results (coping of successes and failures) (IRES)	0,05 (0,67)	-2	2	2	0,25
	Total score	42,68 (13,24)	-23,20	42,68	90	4,74

Figure 1 shows total score obtained in CHPCDC in the two different time-points assessment.

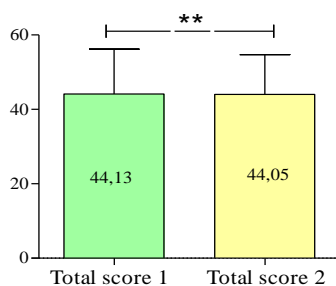
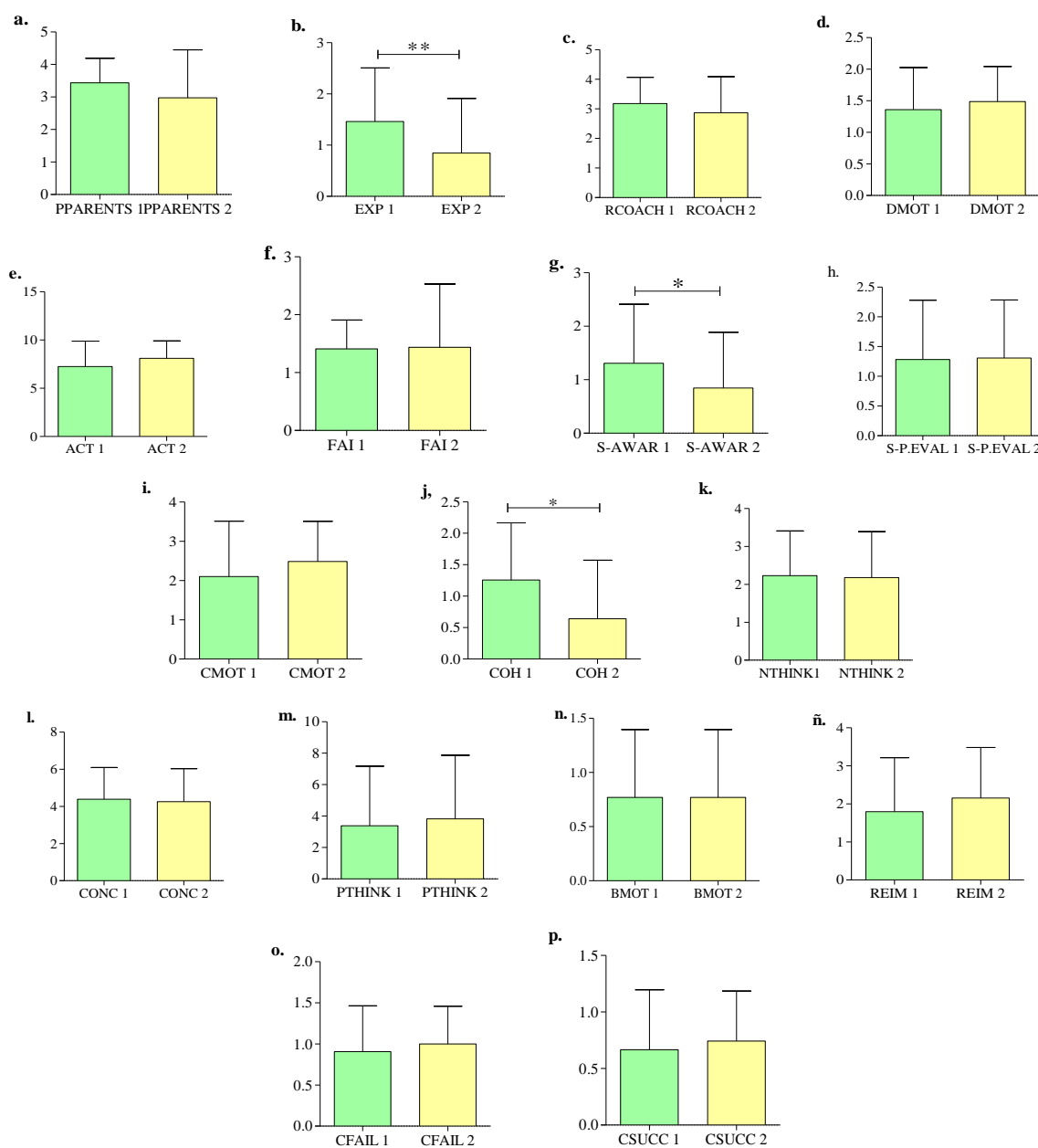


Figure 1. Total score obtained by the female handball players ($N= 39$) in CHPCDC in the first and the second measurement (** $p \leq 0,01$).

Figure 2 shows subscales scores obtained in CHPCDC in different time-points assessment.



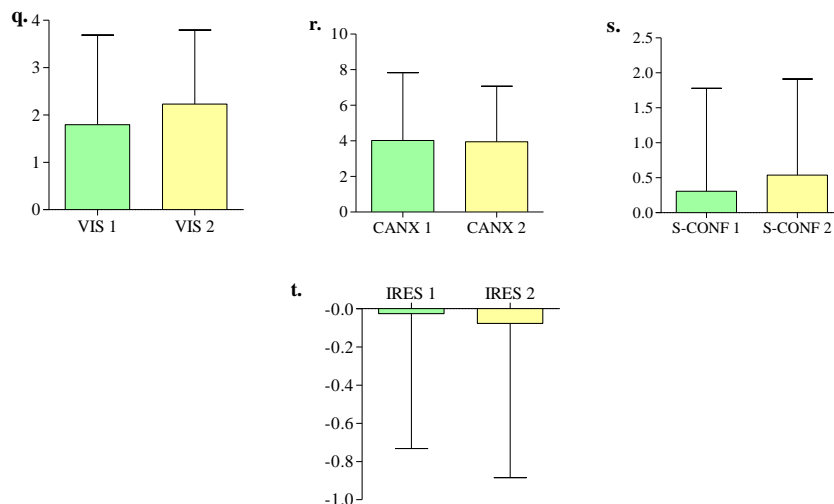


Figure 2. Scores obtained by the young elite female handball players in CHPCDC subscales in different time-points assessment (* $p \leq 0,05$; ** $p \leq 0,01$).

Statistically significant differences were observed in expectations (figure b, $p \leq 0,01$), self-awareness (figure g, $p \leq 0,05$), and in relations with partners and cohesion-cooperation in the team (COH, figure j, $p \leq 0,05$), being lower results obtained in the second measurement.

Discussion

The results show that these young female handball players have mean scores below the mean value of the subscale, and therefore less domain and control, in the following seven variables: influence of results, self-confidence, visualization, controllability for success, controllability for failures, reflexivity-impulsivity, and basic motivation. On the contrary, it should be noted positively the low values obtained in competitive anxiety subscale. On the other hand, have a moderate domain and control as higher mean scores obtained in these six variables: self-evaluation of performance (differences training-competition), competitive motivation, relationships with peers and cohesion-team cooperation, negative and positive thinking, and concentration. Finally, the greatest mastery and control occurs in the 7 variables that obtained the highest mean scores, they are listed from highest to lowest: performances of parents, expectations, relationship with the coach, daily motivation, activation, fair play and self-awareness.

These results have been reported in other studies by (Godoy-Izquierdo et al., 2007; Godoy-Izquierdo, Vélez, & Pradas, 2009) where racquet sports and soccer players, as assessed by the same instrument (CHPCDC) obtained similar results to ours. Also our results are in line with other studies conducted with young players (Jaenes, Carmona, & Lopa, 2010; Lines, Schwartzman, Tkachuk, Leslie-Toogood, & Martin, 1999; Sosa, 2008).

In the other hand, one of our aims was to test the influence of competition experience in the sport in relationship with the level of domain and control of psychological skill. Godoy-Izquierdo et al. (2007) indicate that experience in sports could help in the development of these skills, even without specific training. However, this relationship is not clear, there are authors in agree with this statement (Singer, 1998), while others, on the contrary, found no difference between more experienced players and less experienced players (Lines et al., 1999). Our results do show statistically significant differences, but only in these three variables: relations with partners and cohesion-cooperation in the team, self-awareness and expectations, and although there is no statistical differences in the other variables, there is a

similar trend, where less experienced players show higher scores on different variables. These results partially agree with those presented by Sosa (2008), where were found significant differences between athletes with great, moderate and little practice or experience, obtaining the highest scores the group with much practice in self-esteem, self-confidence and narcissistic motivation, while the group of little practice obtained the highest scores in cohesion and social affiliation.

Conclusions

The low scores obtained in several variables point out the convinience of psychological training, primarily in these variables: influence of the results, self-confidence, visualization, controllability for success, controllability for failure, reflexivity-impulsivity, and basic motivation as part of the comprehensive training of athletes, with the goal of providing appropriate psychological skills that enable them to cope with the growing demands of the sport while increasing their involvement in it.

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